

Additional Notes on the Genus *Chrysobothris* ESCHSCHOLTZ
from Japan and the Adjacent Regions
(Coleoptera, Buprestidae)

By

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Only five species of the genus *Chrysobothris* ESCHSCHOLTZ had been known from Japan, Sakhalin and the Ryûkyû Islands before 1945. In 1948, the author described three new species of the genus from these regions, and in 1963, he added two other new species to the list. In the present paper, the author is going to describe two more new species from the Ryûkyû Islands and the Bonin Islands, so that the number of *Chrysobothris* species from the regions concerned amounts to twelve. At the same time, he will give a note on the type-specimens of two species described from Sakhalin and Amurland.

The author is greatly indebted to Dr. S.-I. UÉNO of the National Science Museum, Tokyo, and also to many entomologists who offered the author many valuable specimens for this study.

Chrysobothris ohnoi sp. nov.

Female. Body moderate, robust; head dark aeneous, with the anterior margin of clypeus narrowly brassy-green and the part above the frontal carina reddish or dark ferrugineous-bronzy; pronotum aeneous or brassy in the punctures and dark reddish or purpureous on rugae and intervals; scutellum blackish-blue with the anterior part tinged with green; elytra dark bronzy, with the marginal parts tinged with aeneous or brassy, ornamented with three golden-bronzy or bronzy-greenish foveae; body beneath bright green or golden-green with the sides purpureo-violaceous, somewhat tinged with bronzy; femora concolorous with elytra on the upper surface, also concolorous with the middle of the body beneath on the under surface with the exception of the apices of the middle and posterior pairs dark violaceous; tibiae purpureo-violaceous; tarsi steel-blue; antennae bronzy-green or brassy-green, somewhat tinged with blue apically.

Head arcuately produced between the eyes in dorsal aspect, and clothed with semi-recumbent silver-greyish, greyish, or yellowish-grey hairs; vertex densely, coarsely, and confluent punctate causing somewhat reticulate intervals, with the median line very obsolete but finely impressed; eyes large, with the inferior rim almost straight or somewhat curved in front, and the distance between the lower apices about 3.6 times as broad as that between the upper apices; frons flattened, uneven, or very obsoletely

depressed below the frontal elevation, which is irregular, transverse, somewhat carinate, but not so sharply defined, and frons broadly but obscurely depressed between the antennal cavities; surface densely, coarsely, and somewhat confluent punctate by round punctures causing the intervals to form a slight network; clypeus rather sparsely covered with punctures smaller than those of frons, declivous posteriorly to frons, with the anterior margin triangularly emarginate at the middle, angulate and produced on each side of the emargination, and sinuate from there to the sides; antennal cavities large, encircled by a narrow but distinct depression posteriorly, with the posterior margin distinctly reflexed; antennae with the third segment slightly longer than twice, but much less than 2.5 times, of the length of the second.

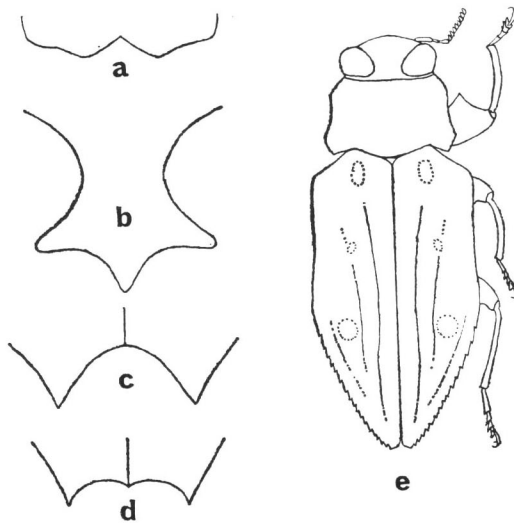


Fig. 1. *Chrysobothris ohnoi* Y. KUROSAWA, nov. — a, Anterior margin of clypeus; b, prosternal process; c, apex of last ventral segment of abdomen (male); d, do. (female); e, dorsal view.

Pronotum transverse, subquadrate, about 1.8 times as wide as long, and widest at the basal fourth; sides slightly attenuate in front, bisinuate, obliquely expanded to the basal fourth where they are obliquely angulate, and then sinuate to just behind the anterior angles, but the posterior extension is always stronger than the anterior one; anterior margin subtruncate or very feebly emarginate and slightly reflexed; anterior angles obliquely truncate in dorsal aspect, but abased and ill-defined in lateral aspects; posterior margin strongly bisinuate, with the median lobe broadly produced; posterior angles obtuse and slightly produced posteriorly; marginal carinae straight, sharply defined except at the anterior angles; infra-marginal carinae distinct, slightly sinuate, somewhat turned inferiorly along the anterior margin just inferior to each anterior angle; disk uneven, moderately convex; surface sparsely punctate, with the intervals strongly

and transversely rugoso-striate. Scutellum irregularly convex, finely and sparsely punctate.

Elytra somewhat dilated posteriorly, about 1.7 times as long as wide, about 4.2 times as long as pronotum, and widest at or just behind the middle; sides rounded at humeri, slightly expanded to the middle, where they are slightly arcuate, and then arcuately attenuate to apex, which is separately rounded and irregularly denticulate; lateral margins irregularly and obsoletely dentato-serrate in posterior two-thirds; sutural margin narrowly elevated in posterior two-thirds; basal lobes produced and obtusely angulate; humeri not prominent; disk costate with two or three obsolete costae and ornamented with three foveae on each elytron arranged as follows: first costa traceable from the inferior side of the second fovea to the apex, very slightly curved; second costa very obsolete, traceable to the inferior side of the third fovea or almost absent; third costa entirely absent; fourth costa along the margin in posterior third and conjointed with the sutural one at the apex, though very obsolete and almost absent; first fovea in the basal lobe; second fovea rounded at the centre of basal third; third fovea situated closer to the lateral margin than to the suture; surface densely and somewhat confluent punctate, but the punctuation becomes sparser at the middle, denser and somewhat granular at the sides.

Body beneath sparsely clothed with semirecumbent, silver-greyish hairs. Prosteronum flattened or transversely depressed along the anterior margin at the middle, coarsely and strongly punctate, with the intervals forming a slight network; anterior margin narrowly reflexed and somewhat lobed at the middle; prosternal process flattened or somewhat depressed, strongly and coarsely covered with round punctures, with the lateral projections long, sharply, horizontally, and laterally projecting, and the median projection long and sharp, and somewhat declivous apically. Mesosternum coarsely but more sparsely punctate than prosternal process, with the suture between meso- and metasterna transverse and straight. Metasternum sparsely covered with round punctures, which are smaller at the middle, larger at the sides, with the median line slightly impressed. Abdomen beneath sparsely punctate, but the punctures are obsolete and open posteriorly; first ventral segment flattened or somewhat longitudinally depressed at the middle; last ventral segment broadly and rather arcuately emarginate between two sharply projecting teeth at the apex, but the emargination is sometimes bipartite by an obscure projection at the middle. Legs normal, dentation on each anterior femur subrectangular, finely but distinctly, and densely denticulate on outer edge; posterior tarsi about three-fifths the length of posterior tibiae, with the first segment about as long as the following three with their lamellae united, and about 2.5 times as long as the second.

Male. Frons brassy-green with the exception of vertex concolorous with pronotum; antennae bright brassy-green; the emargination at the apex of the last ventral segment triangular, deeper than in the female.

Length: 6.4–10.0 mm; width: 2.8–4.1 mm.

Host plant: Presumably *Castanopsis lutchuensis* NAKAI or *Lithocarpus edulis*

MAKINO.

Holotype: ♂, Hatsuno, Amami-Oshima I. (31. vii. 1963, J. NAGAO lgt.).

Allotype and paratypes: 1 ♂ 2 ♀♀, Nishinakama, Amami-Oshima I. (1-7. vi. 1970, H. MAKIHARA lgt.); 1 ♀, Naze, Amami-Oshima I. (18. v. 1960, M. OHNO lgt.); 1 ♀, Ikari, Amami-Oshima I. (19. vi. 1961, T. SHIBATA lgt.); 2 ♀♀, Hatsuno, Amami-Oshima I. (27. vi. 1961, T. SHIBATA lgt.); 2 ♀♀, do. (24. iii. 1964, S. FUKUDA lgt.); 1 ♀, do. (14. vi. 1962, M. SATÔ lgt.); 1 ♀, do. (22. vi. 1970, Y. KUSUI lgt.); 2 ♀♀, do. (25. vi. & 1. vii. 1970, K. MASAKI lgt.); 1 ♀, Higashinakama, Amami-Oshima I. (iii. 1964, K. KINUGASA lgt.); 1 ♀, Takadayama, Amami-Oshima I. (24. v. 1971, K. AKIYAMA lgt.); 1 ♂, Inutabu-dake, Tokuno-shima I. (10. v.-19. vii. 1972, M. TAKAKUWA lgt.).

Range. Ryûkyû Islands (Amami group).

Somewhat resembles *C. saliaris* Y. KUROSAWA from the Okinawa and Yaeyama groups of the Ryûkyûs, but the pronotum is darker, without spatulate marking at the middle, and the elytral foveae are larger and more distinct.

Chrysobothris saliaris yaeyamana subsp. nov.

Different from the typical *saliaris* from the Okinawa group of the Ryûkyûs in the following points: 1) elytral foveae always two on each elytron, without the third fovea; 2) elytral costae stronger, traceable to near the base.

Length: 7.8-10.2 mm; width: 3.3-4.3 mm.

Holotype (♂), allotype (♀) and paratypes: 1 ♂ 2 ♀♀, Nakara river, Iriomote-jima I. (25-28. vi. 1970, H. MAKIHARA lgt.); paratypes: 1 ♂, Kuira river, Iriomote-jima I. (16. v. 1967, Y. YAMAWAKI lgt.); 1 ♂, do. (9. vi. 1973, K. AKIYAMA lgt.); 2 ♂♂, Shirahama, Iriomote-jima I. (21. v. 1963, Y. ARITA lgt.); 2 ♀♀, Mt. Omoto-dake, Ishigaki-jima I. (6. vii. 1964, Y. HAMA lgt.); 1 ♀, do. (20. v. 1974, S. IMASAKA lgt.); 1 ♂, Arakawa, Ishigaki-jima I. (5. vi. 1973, K. AKIYAMA lgt.).

Range. Ryûkyû Islands (Yaeyama group).

Chrysobothris boninensis sp. nov.

Male. Body moderate, slender, and attenuate posteriorly; head bright greenish- or golden-bronzy on frons, violaceous on vertex, and copper-bronzy on the sides and the upper part of frons; pronotum violaceous with the marginal parts and the basal lobe golden-green or golden, but the basal green area often extends forwards along the median line and bipartite the discal violaceous; scutellum dark bluish; elytra violaceous with humeri and the basal area bronzy or golden-green, basal half of the sutural area narrowly margined with golden-green, and ornamented with large, brilliant golden or golden-orange foveolate markings arranged as follows: first in the basal lobe, second at the centre of basal third, and third just before apical third; body beneath green or golden-green, with the sides and the margins of ventral segments violaceous; femora concolorous with the discal colour of elytra on the upper sides, bright green on the under sides with the exception of the middle and posterior pairs violaceous; tibiae golden-bronzy

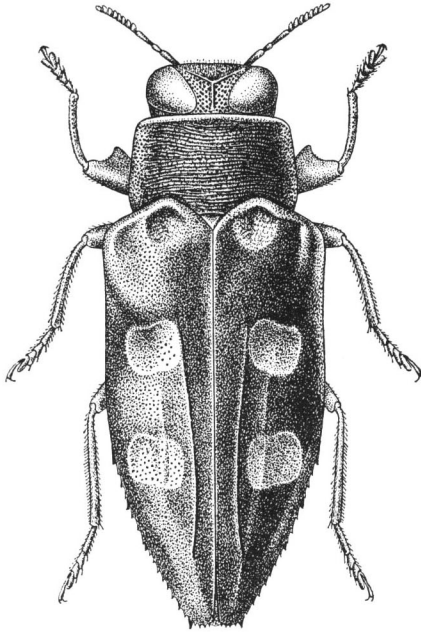


Fig. 2. *Chrysobothris boninensis* Y. KUROSAWA, nov.

with the apices tinged with violaceous or blue; tarsi violaceous; antennae copper-bronzy basally and bronzy apically.

Head almost straight or somewhat arcuate between eyes in dorsal aspect and clothed with rather long greyish hairs; vertex with Y-shaped median carina, coarsely covered with irregular-sized round punctures which are not confluent with one another; frons broadly depressed below the frontal ridge, which is obsolete, coarsely punctate, but the punctures become smaller towards the sides and the intervals between them bear slight rugae which are concentrated in the antero-median part; clypeal suture absent; clypeus sparsely punctate, with the anterior margin broadly bilobed and the median emargination shallow and angulate at the bottom; antennal cavities large, with the surrounding depression narrow and shallow; antennae with the third segment slightly longer than twice, but much less than 2.5 times, of the length of the second.

Pronotum transverse, about 1.65 times as wide as long, and widest just behind basal third; sides slightly attenuate in front, obliquely expanding from base to just behind basal third, where they are somewhat angulate, then slightly but distinctly sinuate to just behind anterior angles, which are subtruncate in dorsal aspect, acute and well-defined in lateral aspect; anterior margin reflexed, subtruncate, or feebly sinuate, without median lobe; posterior margin strongly bisinuate, with the median lobe broadly produced and rounded; posterior angles acute; marginal carinae sharply defined, and slightly curved; infra-marginal carinae distinct, but not so sharply defined as the marginal one, slightly sinuate, subparallel to the marginal ones, and turned inferiorly

along the anterior margin just inferior to each anterior angle; disk convex, obsoletely and transversely depressed just before scutellum; surface very sparsely punctate with the intervals slightly and transversely rugose at the middle and slightly reticulate at the sides, the punctures being very fine and sparse.

Elytra about 1.8 times as long as wide, about 4 times as long as pronotum and widest just behind humeri or at basal fourth; sides slightly expanded at humeri, subparallel to just before the middle or arcuately attenuate from humeri to apex, which is separately rounded and irregularly denticulate; lateral margin irregularly dentato-serrate in the posterior half; sutural margin narrowly elevated with the exception of basal fourth; basal lobe strongly produced and obtusely angulate at the middle; disk moderately convex, obsoletely depressed along the inferior side of each humerus, and broadly foveolate with three foveae arranged as mentioned above, and obsoletely costate by costae arranged as follows: sutural one traceable from base to near apex, obsolete, distinctly sinuate in apical half; second almost vanished, hardly traceable just behind the basal fovea to the third fovea; third traceable just behind humerus to behind the third fovea; marginal one running from just behind humerus to near apex along the margin, but all the costae except for the sutural one are very obsolete and hardly recognizable; surface sparsely punctate with the intervals smooth.

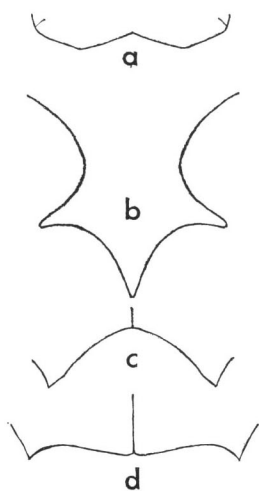


Fig. 3. *Chrysobothris boninensis* Y. KUROSAWA, nov. — a, Anterior margin of clypeus; b, prosternal process; c, apex of last ventral segment of abdomen (male); d, do. (female).

Prosternum densely, coarsely and strongly punctate, and transversely depressed along the anterior margin, which is subtruncate and strongly reflexed; prosternal process somewhat convex or almost flattened, coarsely and strongly punctate, with the lateral projections horizontally produced laterally, and the median projection triangular. Mesosternum and middle coxae coarsely covered with large round punctures. Metasternum and posterior coxae flattened and very sparsely punctate at the middle, rather densely punctate at the sides, but the punctures become finer at the middle, larger at

the sides. Abdomen beneath finely and rather sparsely punctate, but the punctures are rather variolate, open posteriorly and become sparser posteriorly on each segment; first ventral segment slightly convex at the middle; last one deeply and triangularly emarginate between two sharp dentations, though the emargination is rounded at the bottom. Legs normal, dentation on each anterior femur subrectangular, finely and obsolete denticulate on outer edge; posterior tarsi about three-fourths of the length of posterior tibiae, with the first segment slightly longer than the following three with lamellae united, and about 2.8 times as long as the second.

Female. Frons concolorous with pronotum and elytra with the exception of narrowly greenish tinged sides along the inferior rim of eyes and sometimes golden-greenish clypeus and frontal part of frons; apex of the last ventral segment subtruncate or slightly bisinuate with the truncated angles sharply dentate and produced.

Length: 8.5–10.2 mm; width: 3.0–4.1 mm.

Host plant: Unknown.

Holotype (♂), allotype (♀), and paratypes: 3 ♂♂ 12 ♀♀, Mikazuki-yama, Chichijima I., Bonin Is. (16. vi. 1972, K. SUZUKI lgt.); 1 ♀, Komagari, Chichijima I. (15. vi. 1972, K. SUZUKI lgt.).

Range. Bonin Islands.

Colour variations: Sutural part of each elytron sometimes tinged with golden or golden-green.

The present species somewhat resembles *C. militalis* H. DEYROLLE, 1864, known from Borneo and Sumatra, but the ornamentation is completely different.

The present species has two races in the Bonin Islands. One of them is the nominate race from the Chichijima group, and the other is the race from the Haha-jima group, which will be described and named in the following lines.

Chrysobothris boninensis suzukii subsp. nov.

The violaceous parts in the nominate race become brighter and more beautiful in this race, and the golden-green or green parts excepting the elytral foveae become cyanescent; elytral foveae are tinged more strongly with golden; frons of the male is aeneo-cuprescent, neither greenish nor brassy; elytral punctuation sparser.

Range. Bonin Islands (Haha-jima group).

Holotype (♂), allotype (♀) and paratypes: 6 ♂♂ 7 ♀♀, Okimura, Haha-jima I., Bonin Is. (13–14. vi. 1972, K. SUZUKI lgt.); 1 ♀, Nagahama~Ibura Bay, Haha-jima I. (12. vi. 1972, K. SUZUKI lgt.); 1 ♂ 7 ♀♀, Hyogidaira, Haha-jima I. (6. vi. 1973, H. FUJITA lgt.); 3 ♂♂ 5 ♀♀, Haha-jima I. (17. x. 1973, Y. ODA lgt.).

Chrysobothris samurai OBENBERGER, 1935

Chrysobothris samurai OBENBERGER, 1935, Čas. Čs. Spol. Ent., **32**, p. 195.

Chrysobothris tsushimae OBENBERGER, 1936, l. c., **33**, p. 71. (Syn. nov.)

Chrysobothris trassaerti THÉRY, 1939, Mitt. Münch. ent. Ges., **29**, p. 153.

Chrysobothris laevicollis Y. KUROSAWA, 1948, Mushi, **19**, p. 20, pl. 4, f. 3. (Syn. nov.)

Chrysobothris tsushima is the typical form having three foveae on each elytron, while *C. samurai* is a form of the same species having two foveae instead of three. This form is often met with in specimens from Tsushima and Japan proper. The author has examined the following ones: 1 ♀, Nii, N. Tsushima (30. iv. 1968, K. SUGA lgt.), 2 ♂♂ 1 ♀, Mt. Kanmuri-yama, Hiroshima Pref. (30. vi. 1970, T. KOSAKA lgt.).

Since *samurai* was described in 1935 from Sakhalin, and since *tsushima* was described in 1936 from Tsushima, an island group lying between Japan and Korea, the former has the date priority to the latter. *C. laevicollis* described by the present author in 1948 from North Korea is nothing but an individual variation of the female of the former. The species previously regarded by the author as *samurai* is in reality *C. chryso-stigma kerremansi* ABEILLE DE PERRIN known from Siberia.

Chrysobothris succedanea E. SAUNDERS, 1873

Chrysobothris succedanea E. SAUNDERS, 1873, J. Linn. Soc. London, **11**, p. 512.

Chrysobothris amurensis PIC, 1904, Échange, **20**, p. 25. (Syn. nov.)

Chrysobothris succedanea E. SAUNDERS, ab. *depressicollis* Y. KUROSAWA, 1948, Mushi, **19**, p. 28.

The type-specimen of *C. amurensis* PIC is identical in all respects with *C. succedanea* E. SAUNDERS described from Japan and also recorded from China. Another specimen from Seishin, N. Korea, preserved in the Muséum National d'Histoire Naturelle, Paris, determined by A. THÉRY as *amurensis*, is also identical with *C. succedanea*.

The specimen regarded by the author in 1963 as *amurensis* is not the continental form of *succedanea*, but seems to be a subspecies of *C. daisenensis* Y. KUROSAWA, 1963, described from western Japan.

Chrysobothris daisenensis koreana subsp. nov.

Different from *C. daisenensis* Y. KUROSAWA, 1963, from West Japan in the following points: 1) Median longitudinal impression of pronotum weaker and more obsolete; 2) elytral costae weaker, not sharply elevated and almost vanished in basal third; 3) elytral punctuation denser and more confluent, becoming denser posteriorly, somewhat granulate and like a metallic etching.

Length: 11.0 mm; width: 5.1 mm.

Holotype: ♀, Pojodo near Mt. Kambo, N. Korea (18. vii. 1939, Y. YANO lgt.).

Range. N. Korea.

The holo- and allotypes described in this paper are preserved in the collection of the National Science Museum (Natural History Institute), Tokyo.

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